

REMARKS

Applicants thank the Examiner for the through consideration given the present application. Claims 1, 3-6 and 8-10 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Rejection Under 35 USC 103

Claims 1, 3-6 and 8-10 stand rejected under 35 USC 103 as being obvious over Wyngaert et al. (US Patent 6,554,398) in view of Murikami et al. (US Patent 6,896,357) and Althausen et al. (IBM Technical Disclosure Bulletin). This rejection is respectfully traversed.

The Examiner states that the Wyngaert et al. reference shows a compound inkjet printhead printer with a compound printhead module including at least two printheads, an ink detecting module for aligning the nozzles and printheads, actuators and sensors to check the operation and alignment of the nozzles, and the printheads being mounted on a tuning mechanism to adjust the relative distance. The Examiner admits that Wyngaert et al. do not teach ink droplets of the same color and at least printheads providing sizes of ink droplets.

The Examiner relies on Murikami et al. to teach ink droplets of the same color to provide high gradation and high quality images.

The Examiner relies on Althausen et al. to teach a compound printhead module including at least two printheads to provide ink droplets with different sizes. The Examiner feels it would have been obvious to one of ordinary skill in the art to utilize ink droplets of the same color and at least two printheads to provide ink droplets of different sizes so that the compound printhead module simultaneously provides ink droplets of at least two sizes in a print stroke to perform multi-gradation pixels with a reduced number of print strokes and an increasing print speed.

Applicants submit that the presently claimed invention is not obvious over any of these references or their combination.

The Wyngaert et al. reference shows an inkjet printer having printheads 104 and 104a. The distance between the printheads can be adjusted using actuator 106. However, it is noted that according to column 7, lines 57 and following, the misalignment of the printheads is determined

by using a CCD camera or other optical means to read a printed test image and/or the edges of the images. Thus, in order to determine the position of the printheads, it is necessary to print a test image and then determine if the printed image is out of alignment. This differs from the present invention, where the ink detecting module directly determines the operation and relative distance between the printheads before the ink droplet ejection. Clearly, if it is necessary to print a test image for sensing the position of the printheads this cannot be done "before" the ink droplet ejection. Thus, it is clear that the Wyngaert et al. reference does not teach this feature. Furthermore, this concept is emphasized by the amendment to claim 1 to indicate that the determination of the relative distance is directly determined. Thus, the present invention does not need to refer to the printed test image in order to determine this relative distance. Accordingly, Applicants submit that the Wyngaert et al. reference does not teach these features.

Likewise, the Murikami et al. and Althausen et al. references do not teach this feature either. Accordingly, Applicants submit that even if the three references are combined they still do not teach this feature of the claimed invention. Accordingly, claim 1 is considered to be allowable.

Likewise, independent claim 6 has also been amended to include these same limitations. Accordingly, claim 6 is likewise allowable for the same reasons recited above in regard to claim 1.

Claim 3-5 and 7-10 depend from these allowable independent claims and as such are also considered to be allowable. In addition, each of these claims recite other features that make them additionally allowable. In particular, claims 4 and 9 specifically describe the details of the tuning mechanism. None of the references teach the particular tuning mechanism, including the base, the screw adjusting device and the sliding piece and their inner connection as presently described. Accordingly, Applicants submit that these claims are additionally allowable.

Conclusion

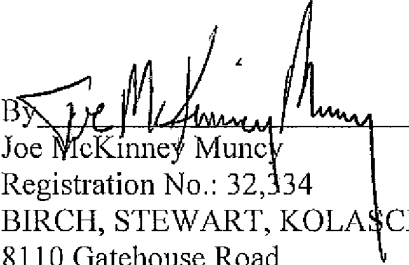
In view of the above remarks, it is believed that claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse Reg. No. 27,295 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,


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